



**DEPARTMENT OF PERMITTING, ENVIRONMENT, AND REGULATORY
AFFAIRS (PERA)
BOARD AND CODE ADMINISTRATION DIVISION
NOTICE OF ACCEPTANCE (NOA)**

**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**
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**Sika Sarnafil Inc.
100 Dan Road
Canton, MA 02021**

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County PERA – Product Control Section to be used in Miami-Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami-Dade County) and/or the AHJ (in areas other than Miami-Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. PERA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Sika Sarnafil PVC Single Ply Roofing over Recover Deck.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/ or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No. 08-0717.13 and consists of pages 1 through 59.
The submitted documentation was reviewed by Jorge L. Acebo.



**NOA No.: 12-0313.18
Expiration Date: 05/16/13
Approval Date: 05/03/12
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ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Single Ply
Material: PVC
Deck Type: Recover
Maximum Design Pressure See Specific Assemblies

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
G410	Various	ASTM D 4434	Fiberglass reinforced PVC roofing membrane.
G410 Felt	Various	ASTM D 4434	Fiberglass reinforced PVC roofing membrane with a non-woven felt backing.
G410 PS	Various	ASTM D 4434	Fiberglass reinforced PVC roofing membrane with a peel & stick self-adhering backing.
G459	Various	ASTM D 4434	Fiberglass reinforced PVC Alloy asphalt compatible flashing membrane.
S327	Various	ASTM D 4434	Polyester reinforced PVC roofing membrane.
S327 Felt	Various	ASTM D 4434	Polyester reinforced PVC roofing membrane.
Sikaplan 45	45 mil thick	ASTM D 4434	A white polyester reinforced PVC roofing membrane
Sarnaclad	Various		Heat weldable PVC laminated to galvanized steel flashing product.
Sarnacol 2121	5 gallons		Water based bonding adhesive.
Sarnacol 2170	5 gallons		Solvent based bonding adhesive.
Sarnacol 2163			Insulation adhesive.
Sarnacol 2164			Insulation adhesive.
Sarnacorner	5", 6", 8.5"		Prefabricated inside and outside corner flashing.
Sarnadrain RAC	Various		Aluminum drain insert.
Sarnaflash	18" x 40"		Prefabricated expansion joints.
Sarnastack	Various		Prefabricated cone flashing.
Sarnatape	Various		Air flow barrier tape
Sarnatred	3.25' x 32.8'		PVC walkway protection sheet.
Sarnavap-10	20' x 100'		Polyethylene air/vapor barrier
SarnaWalkways	Various		PVC walkway protection sheet.



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APPROVED INSULATIONS:

TABLE 2

<u>Product</u>	<u>Dimensions</u>	<u>Product Description</u>	<u>Manufacturer</u> (With Current NOA)
Sarnatherm, Sarnatherm(a)	Various	Isocyanurate Insulation	Sarnafil, Inc.
Sarnatherm 25 PSI	Various	Polyisocyanurate insulation board.	Sarnafil, Inc.
EPS	Various	Type IX Expanded polystyrene with a minimum density of 1.8 pcf	Generic
XPS	Various	Type VI Extruded polystyrene with a minimum density of 1.6 pcf	Generic
High Density Wood Fiberboard	Various	Wood fiber insulation	Generic
Perlite Insulation Board	Various	Perlite Insulation	Generic
Type X Gypsum	Various	Gypsum Wallboard	Generic
DensDeck, DensDeck Prime, DensDeck DuraGuard	Various	Silicon treated gypsum	G-P Products
H-Shield, H-Shield CG	Various	Isocyanurate Insulation	Hunter Panels
ENRGY 3, JM ISO 3	Various	Isocyanurate Insulation	Johns Manville
ENRGY 3 Plus	Various	Isocyanurate Insulation with wood fiberboard facer	Johns Manville
ENRGY 3 PSI-25	Various	Isocyanurate Insulation	Johns Manville
ACFoam II	Various	Isocyanurate Insulation	Atlas Roofing Corp.
ACFoam III	Various	Isocyanurate Insulation	Atlas Roofing Corp.
ACFoam Composite	Various	Isocyanurate Insulation with perlite facer	Atlas Roofing Corp.
ACFoam Supreme	Various	Isocyanurate Insulation	Atlas Roofing Corp.
Multi-Max-3, Multi-Max FA-3	Various	Isocyanurate Insulation	Rmax, Inc.
Thermarroof-3, Thermarroof Composite-3	Various	Isocyanurate Insulation	Rmax, Inc.
ISO 95+ GL	Various	Isocyanurate Insulation	Firestone

APPROVED FASTENERS:

TABLE 3

<u>Fastener Number</u>	<u>Product Name</u>	<u>Product Description</u>	<u>Dimensions</u>	<u>Manufacturer</u> (With Current NOA)
1.	Dekfast Fasteners #12, #14 & #15	Insulation fastener for wood, steel and concrete decks		SFS Intec, Inc.
2.	Dekfast Galvalume Steel Hex Plate	Galvalume hex stress plate.	2 7/8" x 3 1/4"	SFS Intec, Inc.
3.	Dekfast Dekflat Round Plastic Lock Plate	Polypropylene locking plate.	3" x 3 1/4"	SFS Intec, Inc.
4.	#12, #14 & #15 Roofgrip Fasteners	Insulation fastener for wood, steel and concrete.		OMG, Inc.
5.	AccuTrac Hextra	Insulation fastener for wood, steel and concrete		OMG, Inc.
6.	Hextra Plus	Pre-assembled Insulation fastener and plate		OMG, Inc.

APPROVED FASTENERS:

TABLE 3

<u>Fastener Number</u>	<u>Product Name</u>	<u>Product Description</u>	<u>Dimensions</u>	<u>Manufacturer (With Current NOA)</u>
7.	3" Galvalume Steel Plate	Galvalume stress plate.	3" round	OMG, Inc.
8.	AccuTrac Plate	Galvalume stress plate.	3" square	OMG, Inc.
9.	OMG Plastic Plate	Polypropylene round plate	3" round	OMG, Inc.
10.	OMG Fastener #12, #14 & #15	Insulation fastener	Various	OMG, Inc.
11.	OMG Fastener ASAP	Pre-assembled Insulation fastener and plate	Various	OMG, Inc.
12.	OMG G-2	3.5" round galvalume AZ55 steel plate	3.5" round	OMG, Inc.
13.	3 in. Round Metal Plates	3" round galvalume AZ50 steel plate	3" round	OMG, Inc.
14.	OMG Super XHD	Insulation fastener for steel, wood and concrete decks	Various	OMG, Inc.
15.	OMG Heavy Duty	Insulation fastener for steel, wood and concrete decks	Various	OMG, Inc.
16.	OMG CD-10	Carbon steel fastener for concrete decks	Various	OMG, Inc.
17.	Sarnafastener	Insulation fastener for various decks	Various	Sarnafil, Inc.
18.	Sarnaplate	3" square galvalume AZ50 steel plate	3" square	Sarnafil, Inc.
19.	Sarnadisc	Galvalume steel plate	2" round	Sarnafil, Inc.
20.	System ES #12	Pre-assembled Insulation fastener and plate	Various	SFS Intec, Inc.
21.	Isofast Plate	Galvalume steel plate	1.5" x 3.2"	SFS Intec, Inc.
22.	Sarnarail Polymer Batten Strip	Polymer batten bar	0.75" x 250'	Sarnafil, Inc.
23.	Sarnafastener-XP	Membrane and insulation fastener.	Various	Sarnafil, Inc.
24.	Sarnafil MAXLoad	Membrane and insulation fastener.	Various	Sarnafil, Inc.
25.	Sarnadisc-XP	Membrane and insulation fastener.	1.5" x 3.75"	Sarnafil, Inc.
26.	PVC Rhino Plates	Membrane fastening plate	Various	OMG, Inc.
27.	Purlin Fastener	Membrane and insulation fastener	Various	OMG, Inc.
28.	Sarnabar	Galvanized or stainless steel membrane fastening bar.	Various	Sarnafil, Inc.
29.	Sarnadisc MAXLoad Plate	AZ50 galvalume coated steel plate	3.5" Round	Sarnafil, Inc.

EVIDENCE SUBMITTED:

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Description</u>	<u>Date</u>
Celotex Technical Center	MTS Job No. 258215	TAS 114	09/09/97
Factory Mutual Research Corporation	0X3A3.AM	FM 4470	07/31/94
	0P6A6.AM	FM 4470	03/03/94
	2X2A5.AM	FM 4470	07/31/94
	0B9A0.AM	FM 4470	10/22/96
	1Z5A6.AM	FM 4470	07/18/97
	4B3A2.AM	FM 4470	06/19/97
	1B7A5.AM	FM 4470	02/23/98
	3001580	FM 4470	11/16/98
	3003337	FM 4470	06/11/99
	3012964	FM 4470	06/11/02
	3015643	FM 4470	12/06/02
	3016201	FM 4470	01/28/03
	3006785	FM 4470	05/06/04
	3017292	FM 4470	09/03/04
	3024229	FM 4470	11/16/05
	3030053	FM 4470	09/12/07
	3028309	FM 4470	03/30/07
	3029404	FM 4470	09/09/08
Underwriters Laboratories, Inc.	R8992	Fire Classification	1994



APPROVED ASSEMBLIES

Membrane Type:	Single Ply, Thermoplastic, PVC
Deck Type 7I:	Recover, Insulated
Deck Description:	Concrete/lightweight concrete/cementitious wood fiber/wood/steel
System Type A(1):	One or more layers of insulation fully adhered with approved asphalt, membrane adhered

All General and System Limitations apply:

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam II, ACFoam III, ACFoam Composite (bottom layer only), ACFoam Supreme, H-Shield (bottom layer only) any of the above tapered Minimum 1.3" thick	N/A	N/A
ENRGY 3, ENRGY 3 Plus, ENRGY 3 PSI-25 Minimum 1.4" thick or tapered	N/A	N/A
DensDeck, DensDeck Prime Minimum 1/4" thick	N/A	N/A
Multi-Max FA-3, Multi-Max FA-3 - 25 PSI, Thermarook-3 Minimum 1.25" thick or tapered	N/A	N/A
Sarnatherm, Sarnatherm-25 PSI Minimum 1.4" thick or tapered	N/A	N/A
Approved High Density Wood Fiberboard Minimum 1" thick	N/A	N/A
ISO 95+ GL Minimum 1.4" thick or tapered	N/A	N/A
Approved Perlite (base layer only) Minimum 3/4" thick	N/A	N/A

Note: Existing roof shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft² Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Vapor Retarder: (Optional) An FM approved vapor retarder approved for use with hot asphalt may be applied to the deck or base insulation layer

Fire Barrier: (Optional) Minimum 1/4" Type X Gypsum or DensDeck

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 applied at 1.25 gal./sq. to the substrate and 0.5 gal./sq. to the back of the Membrane, or Sarnacol 2121 applied to the substrate only at 1.5 to 2.5 gal./sq.

Maximum Design Pressure: -45 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 2500 psi structural concrete or concrete plank

System Type A(2): One or more layers of insulation fully adhered with approved adhesive.

All General and System Limitations apply.

One or more layers of the following.

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener Density/ft²</u>
H-Shield CG Minimum 1.5" thick	N/A	N/A
DensDeck DuraGuard Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 25 lbs/sq. or in 0.75" wide beads of Olybond 500 spaced 12" o.c. lbs/100 ft².

Vapor Retarder: (Optional) Any UL or FM approved vapor barrier approved for use with hot asphalt may be applied to the deck or perlite base layer.

Membrane: G410 PS is installed with a 3" wide heat welded seam. Membrane is rolled into insulation with a weighted roller.

Maximum Design Pressure: -75.0 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(3): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
ACFoam II, H-Shield, ENRGY 3, ISO 95+GL, Sarnatherm Minimum 1.0" thick	N/A	N/A
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in full coating of OlyBond Adhesive Fastener at a rate of 1 gal/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: Sarnafil G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee or Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure = -150.0 psf (See General Limitation #9)

Or

G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 0.5 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure -127.5 psf (See General Limitation #9)

Maximum Design Pressure: See Membrane Options above.

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: Steel / concrete / cementitious wood fiber / lightweight concrete / gypsum / wood

System Type A(4): One or more layers of insulation adhered with approved adhesive, membrane fully adhered.

All General and System Limitations apply.

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam II, ACFoam III, ISO 95+GL, ENRGY 3, Sarnatherm		
Maximum 1" thick	N/A	N/A
DensDeck, DensDeck Prime		
Minimum 5/8" thick	N/A	N/A

Note: Insulation shall be adhered to the deck in full coating of OlyBond Adhesive Fastener at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate

Vapor Retarder: (Optional) An FM approved vapor retarder approved for use with hot asphalt may be applied to the deck or base insulation layer

Fire Barrier: (Optional) Minimum 1/4" Type X Gypsum or DensDeck.

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 applied at 1.25 gal./sq. to the substrate and 0.5 gal./sq. to the back of the membrane, or Sarnacol 2121 applied to the substrate only at 1.5 to 2.5 gal./sq.

Maximum Design Pressures: -45 psf. (See General Limitation #9)



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Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(5): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
(Optional) Approved EPS (expanded) Minimum 2.0" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Approved High Density Wood Fiberboard Minimum 1.0" thick	N/A	N/A
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.
 Or
 G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 0.5 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -120.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Cementitious wood fiber / Gypsum
System Type A(6): One or more layers of insulation adhered with approved adhesive, membrane fully adhered.

All General and System Limitations apply.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam II, H-Shield, ENRGY 3, Sarnatherm Minimum 1.0" thick	N/A	N/A
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in full coating of OlyBond Adhesive Fastener at a rate of 1 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 applied at 1.25 gal./sq. to the substrate and 0.5 gal./sq. to the back of the Membrane, or Sarnacol 2121 applied to the substrate only at 1.5 to 2.5 gal./sq.

Maximum Design Pressure: -45.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(7): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
(Optional) AC Foam II, H-Shield, Sarnatherm Minimum 1.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: Sarnafil G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee or Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Or

G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 0.5 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -120.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(8): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ENRGY 3, Sarnatherm, H-Shield Minimum 1.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: Sarnafil G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee or Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Or

G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 0.5 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -120.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(9): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ISO 95+ GL, H-Shield Minimum 1.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Approved High Density Wood Fiberboard Minimum 1.0" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.

Maximum Design Pressure: -120.0 psf (See General Limitation #9) (Recover)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(10): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Foamular 250 Minimum 1.0" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: Sarnafil G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee or Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Or

G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 0.5 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -120.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 3I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(11): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
GAFTEMP Fiberboard Minimum 0.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" to 1" wide ribbons of OlyBond 500 or OlyBond 500 SpotShot Adhesive Fastener, spaced 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.

Maximum Design Pressure: -162.5 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 200 psi lightweight insulating concrete
System Type A(12): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam II, H-Shield, Sarnatherm Minimum 1.5" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum 0.5" thick	N/A	N/A
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Approved High Density Wood Fiberboard Minimum 1.0" thick	N/A	N/A
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.
 Or
 Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -120.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Lightweight insulating concrete
System Type A(13): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
ACFoam II, H-Shield, ENRGY 3, Sarnatherm Minimum 1.0" thick or tapered	N/A	N/A

Note: All insulation shall be adhered to the deck in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a $\frac{1}{4}$ " x $\frac{1}{4}$ " notched squeegee.
 Or
 G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 0.5 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -90.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Gypsum
System Type A(14): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam II, H-Shield, ENRGY 3, Sarnatherm Minimum 1.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ¾" – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 0.5 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.
 Or
 G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.

Maximum Design Pressure: -112.5 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Gypsum
System Type A(15): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
Approved High Density Wood Fiberboard Minimum 0.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in $\frac{3}{4}$ " – 1" wide beads 12" o.c. of OlyBond 500 or Spot Shot Adhesive Fastener. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a $\frac{1}{4}$ " x $\frac{1}{4}$ " notched squeegee.

Maximum Design Pressure: -135.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Gypsum
System Type A(16): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
(Optional) ACFoam II, ACFoam III, H-Shield, ISO 95+ GL, ENRGY 3, Multi-Max-3, Sarnatherm Minimum 1.5" thick or tapered	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A
Approved High Density Wood Fiber Minimum 0.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Millennium One Step Foamable Adhesive or Sarnacol 2163. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Vapor Retarders: (Optional) Any UL or FM approved asphaltic vapor retarder may be installed over the deck or the base layer of insulation

Membrane: Sarnafil G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee or Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Or

G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.

Maximum Design Pressure: -45.0 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(17): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam II, Multi-Max-3, ENRGY 3, H-Shield, Sarnatherm Minimum 1.5" thick	N/A	N/A
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Millennium One Step Foamable Adhesive or Sarnacol 2163. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Vapor Retarders: (Optional) Any UL or FM approved asphaltic vapor retarder may be installed over the deck or the base layer of insulation

Membrane: G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee or Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure = -157.5 psf (See General Limitation #9)

Or

G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 adhesive. Adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 0.5 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure = -127.5 psf (See General Limitation #9)

Maximum Design Pressure: See membrane attachment above.



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(18): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
ACFoam II, Multi-Max-3, ENRGY 3, H-Shield, ISO 95+GL, Sarnatherm Minimum 1.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
Approved High Density Wood Fiber Minimum 0.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Millennium One Step Foamable Adhesive, Sarnacol 2163 or Millennium Pourable Foam Insulation Adhesive or Sarnacol 2164. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Vapor Retarders: (Optional) Any UL or FM approved asphaltic vapor retarder may be installed over the deck or the base layer of insulation

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.

Maximum Design Pressure: -127.5 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(19): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Approved XPS Insulation Boards Minimum 1.0" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
DensDeck, DensDeck Prime Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Millennium Pourable Foam Insulation Adhesive or Sarnacol 2164. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Vapor Retarders: (Optional) Any UL or FM approved asphaltic vapor retarder may be installed over the deck or the base layer of insulation

Membrane: Sarnafil G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee or Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure: -202.5 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(20): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

Base Insulation Layer

Approved XPS or EPS Insulation Boards
 Minimum 1.0" thick

Insulation Fasteners
(Table 3)

Fastener
Density/ft²

N/A

N/A

Top Insulation Layer

Approved High Density Wood Fiber
 Minimum 0.5" thick

Insulation Fasteners
(Table 3)

Fastener
Density/ft²

N/A

N/A

Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Millennium Pourable Foam Insulation Adhesive or Sarnacol 2164. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Vapor Retarders: (Optional) Any UL or FM approved asphaltic vapor retarder may be installed over the deck or the base layer of insulation

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.

Maximum Design Pressure: -150.0 psf (with EPS) (See General Limitation #9)
 -162.5 psf (with XPS) (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(21): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

One or more layers of the following insulations:

<u>Base Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam II, ACFoam III, ENRGY 3, Sarnatherm, H-Shield Minimum 1.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners (Table 3)</u>	<u>Fastener Density/ft²</u>
Approved High Density Wood Fiber Minimum 0.25" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in ½" to ¾" wide beads 12" o.c. of Millennium Pourable Foam Insulation Adhesive or Sarnacol 2164. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Vapor Retarders: (Optional) Any UL or FM approved asphaltic vapor retarder may be installed over the deck or the base layer of insulation

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee.

Maximum Design Pressure: -127.5 psf (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(22): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
ACFoam II, ACFoam III, Multi-Max FA-3, JM ISO 3, ISO 95+GL, Sarnatherm Minimum 1.5" thick	N/A	N/A
DensDeck, DensDeck Prime Minimum 0.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in 3-3.5" wide beads spaced 12" o.c. of TITE-SET Roofing Adhesive or 3M Polyurethane Foam Insulation Adhesive CR-20. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Vapor Retarders: (Optional) Any UL or FM approved vapor retarder may be installed over the deck.

Membrane: Sarnafil G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a 1/4" x 1/4" notched squeegee or with Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure -202.5 psf (See General Limitation #9)

Or

Sarnafil G410 or S327 adhered with Sarnacol 2170 applied at 1.25gal/sq. to the substrate and .5 gal/sq. to the back of the membrane.

Maximum Design Pressure -127.5 psf (See General Limitation #9)

Maximum Design Pressure: See Membrane Options above.



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(23): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

<u>Base Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
(Optional) ACFoam II, ACFoam III, Multi-Max FA-3, JM ISO 3, ISO 95+GL, Sarnatherm, H-Shield Minimum 1.5" thick	N/A	N/A
(Optional) DensDeck, DensDeck Prime Minimum 0.5" thick	N/A	N/A
<u>Top Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
ACFoam II, ACFoam III, Multi-Max FA-3, Sarnatherm Tapered	N/A	N/A

Note: All insulation shall be adhered to the deck in 3-3.5" wide beads spaced 12" o.c. of TITE-SET Roofing Adhesive or 3M Polyurethane Foam Insulation Adhesive CR-20. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Vapor Retarders: (Optional) Any UL or FM approved vapor retarder may be installed over the deck.

Membrane: Sarnafil G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a 1/4" x 1/4" notched squeegee or with Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Or

Sarnafil G410 or S327 adhered with Sarnacol 2170 applied at 1.25gal/sq. to the substrate and .5 gal/sq. to the back of the membrane.

Maximum Design Pressure: -45.0 psf (See General Limitation #9)



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Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 2500 psi structural concrete or concrete plank
System Type A(24): One or more layers of insulation adhered with approved adhesive, membrane fully adhered

All General and System Limitations apply.

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener</u> <u>Density/ft²</u>
DensDeck, DensDeck Prime Minimum 0.5" thick	N/A	N/A

Note: All insulation shall be adhered to the deck in 3-3.5" wide beads spaced 12" o.c. of TITE-SET Roofing Adhesive or 3M Polyurethane Foam Insulation Adhesive CR-20. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Vapor Retarders: (Optional) Any UL or FM approved vapor retarder may be installed over the deck.

Membrane: Sarnafil G410 Felt or S327 Felt adhered with Sarnacol 2121 adhesive applied at 2.25 gal/sq. to the insulation using a ¼" x ¼" notched squeegee or with Sarnacol 2170 adhesive rolled applied as a primer at a rate 1.0-1.25 gal/sq. to the insulation allowed to dry. Following a second coat roller applied of adhesive at 1.0 gal/sq. The roof cover is immediately placed into the adhesive and the top surface rolled with a weighted roller.

Maximum Design Pressure -202.5 psf (See General Limitation #9)

Or

Sarnafil G410 or S327 adhered with Sarnacol 2170 applied at 1.25gal/sq. to the substrate and .5 gal/sq. to the back of the membrane.

Maximum Design Pressure -127.5 psf (See General Limitation #9)

Maximum Design Pressure: See Membrane Options above.



Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel

System Type B(1): Base layer of insulation mechanically attached, optional top layer fully adhered with approved asphalt, membrane adhered.

All General and System Limitations apply:

<u>Base Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
ACFoam II, ACFoam Composite, H-Shield		
Minimum 1.3" thick or tapered	1:2 ft ²	Any approved fastener listed in Table 3
Minimum 2" thick or tapered	1:4 ft ²	
ENRGY-3, ENRGY 3 Plus, ENRGY 3 PSI-25		
Minimum 1.4" thick or tapered	1:2 ft ²	Any approved fastener listed in Table 3
Minimum 2" thick or tapered	1:4 ft ²	
DensDeck, DensDeck Prime		
Minimum ¼" thick	1:1.2 ft ²	Any approved fastener listed in Table 3
Minimum ½" thick	1:1.7 ft ²	
Multi-Max FA-3, Thermarook Composite-3		
Minimum 1.25" thick or tapered	1:2 ft ²	Any approved fastener listed in Table 3
Minimum 2" thick or tapered	1:4 ft ²	
Sarnatherm, Sarnatherm-25 PSI		
Minimum 1.4" thick	1:2 ft ²	Any approved fastener listed in Table 3
Minimum 2" thick	1:4 ft ²	
ISO 95+ GL		
Minimum 1.4" thick or tapered	1:2 ft ²	Any approved fastener listed in Table 3
Minimum 2" thick or tapered	1:4 ft ²	
Approved High Density Wood Fiberboard		
Minimum 1" thick	1:2 ft ²	Any approved fastener listed in Table 3
Approved Perlite		
Minimum ¾" thick	1:2 ft ²	Any approved fastener listed in Table 3

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.



Top Insulation Layer (Optional)**Fastener Density/ft²****Fastener Type****AC Foam II**

Minimum 1.3" thick or tapered

N/A

N/A

ENRGY 3, ENRGY 3 Plus, ENRGY 3 PSI-25

Minimum 1.4" thick or tapered

N/A

N/A

DensDeck, DensDeck Prime

Minimum 1/4" thick

N/A

N/A

Multi-Max FA-3

Minimum 1.25" thick or tapered

N/A

N/A

Sarnatherm, Sarnatherm-25 PSI

Minimum 1.4" thick

N/A

N/A

ISO 95+ GL

Minimum 1.4" thick or tapered

N/A

N/A

Approved High Density Wood Fiberboard

Minimum 1" thick

N/A

N/A

Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Vapor Retarder:

(Optional) An FM approved vapor retarder approved for use with hot asphalt may be applied to the deck or base insulation layer

Fire Barrier:

(Optional) Minimum 1/4" Type X Gypsum or DensDeck.

Membrane:

G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 applied at 1.25 gal./sq. to the substrate and .5 gal./sq. to the back of the Membrane, or Sarnacol 2121 applied to the substrate only at 1.5 to 2.5 gal./sq.

Maximum Design Pressure:

-45 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Minimum 2500 psi structural concrete or concrete plank
System Type B(2): Base Layer of insulation mechanically attached, optional top insulation layer adhered with approved adhesive.

All General and System Limitations apply:

<u>Base Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
ACFoam Supreme, H-Shield, Sarnatherm or H-Shield CG		
Minimum 1.5" thick	1:4	Any approved fastener listed in Table 3

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

<u>Top Insulation Layer (Optional)</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
ACFoam Supreme, H-Shield, Sarnatherm or H-Shield CG		
Minimum 1.5" thick	N/A	N/A
DensDeck Prime, DensDeck DuraGuard		
Minimum ¼" thick	N/A	N/A

Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 25 lbs/sq. or 0.75" wide beads of OlyBond 500 spaced 12" o.c.

Vapor Retarder: (Optional) Any UL or FM approved vapor barrier approved for use with hot asphalt may be applied to the deck or perlite base layer.

Fire Barrier: (Optional) Minimum ¼ " Type X Gypsum or DensDeck or Atlas FR10 or FR 50

Membrane: G410 PS is installed with a 3" wide heat welded seam. Membrane is rolled into insulation with a weighted roller.

Maximum Design Pressure: -45 psf. (See General Limitation #9)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Concrete/lightweight concrete/cementitious wood fiber/wood/steel
System Type C(1): All layers of insulation simultaneously attached, membrane adhered.

All General and System Limitations apply:

<u>Base Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
ACFoam II, ACFoam III, ACFoam Composite, ACFoam Supreme, H-Shield Minimum 1.3" thick or tapered	N/A	N/A
ENRGY 3, ENRGY 3 Plus, ENRGY 3PSI-25 Minimum 1.4" thick or tapered	N/A	N/A
DensDeck, DensDeck Prime Minimum ¼" thick	N/A	N/A
Multi-Max FA-3, Thermarroof-3 Minimum 1.25" thick or tapered	N/A	N/A
Sarnatherm, Sarnatherm-25 PSI Minimum 1.4" thick or tapered	N/A	N/A
Approved High Density Wood Fiberboard Minimum 1" thick	N/A	N/A
ISO 95+ GL Minimum 1.4" thick or tapered	N/A	N/A
Approved Perlite Minimum ¾" thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
ACFoam II, ACFoam III Minimum 1.3" thick or tapered Minimum 2" thick or tapered	1:2 ft ² 1:4 ft ²	Any approved fastener listed in Table 3
ENRGY 3, ENRGY 3 Plus, ENRGY 3PSI-25 Minimum 1.4" thick or tapered Minimum 2" thick or tapered	1:2 ft ² 1:4 ft ²	Any approved fastener listed in Table 3
DensDeck, DensDeck Prime Minimum ¼" thick Minimum ½" thick	1:1.2 ft ² 1:1.7 ft ²	Any approved fastener listed in Table 3
Sarnatherm, Sarnatherm-25 PSI Minimum 1.4" thick Minimum 2" thick	1:2 ft ² 1:4 ft ²	Any approved fastener listed in Table 3

ISO 95+ GL

Minimum 1.4" thick or tapered

1:2 ft²Any approved fastener listed
in Table 3

Minimum 2" thick or tapered

1:4 ft²**Approved High Density Wood Fiberboard**

Minimum 1" thick

1:2 ft²Any approved fastener listed
in Table 3

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Vapor Retarder: (Optional) Sarnavap vapor barrier applied directly to the deck or over base insulation layer.

Fire Barrier: (Optional) Minimum 1/4" Type X Gypsum or DensDeck.

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 applied at 1.25 gal./sq. to the substrate and 0.5 gal./sq. to the back of the Membrane, or Sarnacol 2121 applied to the substrate only at 1.5 to 2.5 gal./sq.

Maximum Design Pressure: -45 psf (See General Limitation #9)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 2500 psi concrete or concrete plank or min. 18-22 ga. steel

System Type C(2): All layers of insulation simultaneously fastened; membrane fully adhered.

All General and System Limitations apply.

<u>Base Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
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Any Approved Polyisocyanurate Listed in Table 2

Minimum 1.5" thick

N/A

N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
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DensDeck Prime

Minimum 5/8" thick

1:2

Sarnafasteners and Sarnaplates

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Vapor Retarder: (Optional) Sarnavap vapor barrier applied directly to the deck.

Fire Barrier: None.

Membrane: G410 or S327, adhered with Sarnacol 2170 applied at a rate of 0.75 – 2 gal/sq. to the substrate and 0.5 gal/sq. to the back of the membrane. Minimum 3" wide side lap is sealed with a 1.5" wide heat weld.

Maximum Design Pressures: -60.0 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Minimum 2500 psi concrete or concrete plank or min. 18-22 ga. steel
System Type C(3): All layers of insulation simultaneously fastened; membrane fully adhered.
All General and System Limitations apply.

<u>Base Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
Any Approved Polyisocyanurate Listed in Table 2		

Minimum 1.5" thick	N/A	N/A
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Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
DensDeck Prime		
Minimum 5/8" thick	1:2	Sarnafasteners and Sarnaplates

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Vapor Retarder: (Optional) Sarnavap vapor barrier applied directly to the deck.

Fire Barrier: None.

Membrane: G410 Felt or S327 Felt, adhered with Sarnocol 2121 adhesive applied at a rate of 2.0 – 2.5 gal/sq to substrate. Minimum 3" wide side lap is sealed with a 1.5" wide heat weld.

Maximum Design Pressures: -52.5 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: 18 ga. steel deck fastened to supports spaced maximum 6 ft. o.c. with Traxx 5 fasteners spaced 6 in. o.c. and with side laps fastened with two Traxx 1 fasteners spaced maximum 24 in. o.c.

System Type C(4): All layers of insulation simultaneously fastened; membrane bonded.

All General and System Limitations apply.

Base Insulation Layer

Fastener Density/ft²

Fastener Type

Any Approved insulation Listed in Table 2

N/A

N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer

Fastener Density/ft²

Fastener Type

(Optional) Any Approved Cover Board Listed in Table 2

See Design Pressure

OMG Purlin Fasteners and
PVC Rhino Plates

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: S327, S327 Felt Backed or Sikaplan 45 bonded to PVC Rhino Plates with Rhino Plate bonding tool at 6 seconds per plate so the tool reaches 400°F. Side lap is sealed with minimum ¾" wide heat weld. OMG Purlin fasteners shall be fastened through the existing metal standing or lap seam roof cover to min. 12 ga. steel structure.

	Maximum Pressure	Fastener Spacing	Fastener Row Spacing
Maximum Design Pressures:	-105 psf (See General Limitation #7)	6 in.	5 ft.
	-52.5 psf (See General Limitation #7)	12 in.	5 ft.
	-90 psf (See General Limitation #7)	6 in.	6 ft.
	-45 psf (See General Limitation #7)	12 in.	6 ft.

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: 18 – 22ga. steel deck fastened to supports spaced maximum 6 ft. o.c. with Traxx 5 fasteners spaced 6 in. o.c. and with side laps fastened with Traxx 1 fasteners spaced maximum 24 in. o.c.

System Type C(5): All layers of insulation simultaneously fastened; membrane bonded.

All General and System Limitations apply.

<u>Base Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
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Any Approved Insulation Listed in Table 2

Minimum 0.25" thick

N/A

N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
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(Optional) Any Approved Cover Board Listed in Table 2

Minimum 0.25" thick

See Design Pressure

OMG Super XHD and
PVC Rhino Plates

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: S327, S327 Felt Backed or Sikaplan 45 bonded to PVC Rhino Plates with Rhino Plate bonding tool at 6 seconds per plate so the tool reaches 400°F. Side lap is sealed with minimum 3/4" wide heat weld.

Maximum Design Pressures:	Maximum Pressure	Fastener Spacing	Fastener Row Spacing
	-60 psf (See General Limitation #7)	2 ft.	2 ft.



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Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: 18 – 22ga. steel deck

System Type C(6): All layers of insulation simultaneously fastened; membrane bonded.

All General and System Limitations apply.

Base Insulation Layer

Fastener Density/ft²

Fastener Type

Any Approved Insulation Listed in Table 2

Minimum 0.25" thick

N/A

N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer

Fastener Density/ft²

Fastener Type

(Optional) Any Approved Cover Board Listed in Table 2

Minimum 0.25" thick

See Design Pressure

OMG Super XHD and
PVC Rhino Plates

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: S327, S327 Felt Backed or Sikaplan 45 bonded to PVC Rhino Plates with Rhino Plate bonding tool at 6 seconds per plate so the tool reaches 400°F. Side lap is sealed with minimum ¾" wide heat weld.

**Maximum Design
Pressures:**

Maximum Pressure

-45 psf

(See General Limitation #7)

Fastener Spacing

2 ft.

Fastener Row Spacing

3 ft.

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: 18 – 22ga., Grade 80 steel deck fastened to supports spaced maximum 6 ft. o.c. with Traxx 5 fasteners spaced 6 in. o.c. and with side laps fastened with Traxx 1 fasteners spaced maximum 24 in. o.c.

System Type C(7): All layers of insulation simultaneously fastened; membrane bonded.

All General and System Limitations apply.

<u>Base Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
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Any Approved Insulation Listed in Table 2

Minimum 0.25" thick

N/A

N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

<u>Top Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
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(Optional) Any Approved Cover Board Listed in Table 2

Minimum 0.25" thick

See Design Pressure

OMG Super XHD or
Sarnafastener-XP and
PVC Rhino Plates

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Membrane: S327, S327 Felt Backed or Sikaplan 45 bonded to PVC Rhino Plates with Rhino Plate bonding tool at 6 seconds per plate so the tool reaches 400°F. Side lap is sealed with minimum ¾" wide heat weld.

	Maximum Pressure	Fastener Spacing	Fastener Row Spacing
Maximum Design Pressures:	-60 psf (See General Limitation #7)	2 ft.	2 ft.
	-45 psf (See General Limitation #7)	2 ft.	3 ft.

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 2500 psi structural concrete or concrete plank

System Type C(8): All layers of insulation simultaneously fastened, membrane adhered

All General and System Limitations apply:

Fire Barrier: Minimum 0.5" thick DensDeck, DensDeck Prime or DensDeck DuraGuard. Joints are offset minimum of 6" from joints in plywood.

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density.

Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application RAS 117 for fastener details).

Insulation

Fastener Density/ft²

Fastener Type

Sarnatherm, Sarnatherm(a), H-Shield, H-Shield CG, ACFoam II, ACFoam III, ACFoam Supreme, ENRGY 3, Multi-Max FA-3, or ISO 95+ GL

Minimum: 1.5" Thick

1:2

#14 or #15 HS Dekfast with Dekfast
Galvalume Steel 3" Round Plate

#14 OMG or Roofgrip with 3" Ribbed
Galvalume Plate or OMG 3" Galvalume
Steel Plate

#14 Sarnafastener with Sarnaplate

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. (See Roofing Application RAS 117 for fastener details).

Membrane: Minimum 45 mil G410 or S327 adhered with Sarnacol 2166 adhesive applied at 0.4 gal/sq. and with a minimum 1.25 in. wide heat-welded seam.

Maximum Design Pressure: -52.5 psf (with ENRGY 3) (See General Limitation #7)
-45.0 psf (with all other polyisocyanurate insulations)
(See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 2500 psi structural concrete or concrete plank

System Type C(9): All layers of insulation simultaneously fastened, membrane adhered

All General and System Limitations apply:

Fire Barrier: Minimum 0.5" thick DensDeck, DensDeck Prime or DensDeck DuraGuard. Joints are offset minimum of 6" from joints in plywood.

<u>Base Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
Sarnatherm, Sarnatherm(a), H-Shield, H-Shield CG, ACFoam II, ACFoam III, ACFoam Supreme, ENRGY 3, Multi-Max FA-3, or ISO 95+ GL		
Minimum: 1.5" Thick	N/A	N/A

Note: All layers shall be simultaneously fastened; see top layer below for fasteners and density. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application RAS 117 for fastener details).

<u>Top Insulation Layer</u>	<u>Fastener Density/ft²</u>	<u>Fastener Type</u>
DensDeck Prime		
Minimum 0.25" Thick	1:2	#14 or #15 HS Dekfast with Dekfast Galvalume Steel 3" Round Plate #14 OMG or Roofgrip with 3" Ribbed Galvalume Plate or OMG 3" Galvalume Steel Plate #14 Sarnafastener with Sarnaplate

Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density. (See Roofing Application RAS 117 for fastener details).

Membrane: Minimum 45 mil G410 or S327 adhered with Sarnacol 2166 adhesive applied at 0.4 gal/sq. and with a minimum 1.25 in. wide heat-welded seam.

Maximum Design Pressure: -45.0 psf (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Minimum 2500 psi structural concrete or concrete plank or 18-22 ga. steel
System Type D(1): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply:

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> (Table 3)	<u>Fastener Density/ft²</u>
ACFoam II, ACFoam III, ACFoam Composite (bottom layer only), ACFoam Supreme, H-Shield Minimum 1.3" thick or tapered	N/A	N/A
Sarnatherm, ENRGY 3, ENRGY 3 Plus, ENRGY 3 PSI-25, ISO 95+ GL Minimum 1.4" thick or tapered	N/A	N/A
DensDeck, DensDeck Prime Minimum ¼" thick	N/A	N/A
Multi-Max FA-3, Thermarroof-3 Minimum 1.25" thick or tapered	N/A	N/A
Approved High Density Wood Fiberboard Minimum 1" thick	N/A	N/A
Approved Perlite (base layer only) Minimum ¾" thick	N/A	N/A

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarder: (Optional) Sarnavap vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum or ¼ " DensDeck.

Membrane: S327, S327 Felt, or Sikaplan 45 attached to deck as specified below.

Fastening #1: Any approved fastener listed herein with 2" Sarnadisc- plates spaced maximum 12 in. o.c. within minimum 6 in. wide side laps. Laps spaced maximum 72.5 in. and sealed with a minimum 0.75in. wide heat weld on the inside and a minimum 1.5 in. heat weld on the outside.

Maximum Design Pressure -45 psf (See General Limitation # 7)

Fastening #2: Any approved fastener listed herein with approved discs spaced maximum 6" o.c. within the minimum 5.5" side lap spaced maximum 73" o.c. and sealed with a minimum 1.5" weld.

Maximum Design Pressure -52.5 psf (See General Limitation #7)

Fastening #3: Any approved fastener listed herein with approved discs spaced 6" o.c. in rows 12' o.c. maximum, or Sarnabars spaced 12' o.c. maximum fastened with Sarnafasteners spaced 6 in. o.c. through the field of the membrane and covered with a 7" minimum width cover strip with minimum 1.5" welds on each side.

Maximum Design Pressure -52.5 psf (See General Limitation #7)



- Fastening #4:** Any approved fastener listed herein with approved plates spaced maximum 12 in. o.c. within minimum 5.5 in. wide side laps. Laps spaced maximum 73.5 in. o.c. and sealed with a minimum 1.5 in. wide heat weld.
Maximum Design Pressure -45.0 psf (See General Limitation #7)
- Fastening #5:** Any approved fastener listed herein with approved plates spaced maximum 6 in. o.c. within minimum 5.5 in. wide side laps. Laps spaced maximum 73.5 in. o.c. and sealed with a minimum 1.5 in. wide heat weld.
Maximum Design Pressure -75.0 psf (See General Limitation #7)
- Fastening #6:** Any approved fastener listed herein with 2" Sarnadisc plates spaced maximum 6 in. o.c. within the minimum 6 in. wide side laps. Laps spaced maximum 72.5 in. and sealed with a minimum 0.75 in. wide heat weld on the inside and a minimum 1.5 in. heat weld on the outside.
Maximum Design Pressure -82.5 psf (See General Limitation #7)
- Fastening #7:** Sarnabars spaced maximum 4.5 ft. o.c. secured to deck with OMG Heavy Duty or OMG CD-10 fasteners spaced maximum 12 inches o.c.
Maximum Design Pressure -120.0 psf (See General Limitation #7)
- Fastening #8:** Sarnabar spaced maximum 4.5 ft. o.c. secured to deck with Sarnafastener-Concrete, OMG Heavy Duty or OMG CD-10 fasteners spaced maximum 6 inches o.c.
Maximum Design Pressure -232.5 psf (See General Limitation #7)
- Fastening #9:** Sarnabars spaced 3' o.c. maximum, fastened with Sarnafasteners-XP spaced 6" o.c. through the field of the membrane and covered with a 7" minimum width cover strip with minimum 1.5" wide welds on each side.
Maximum Design Pressure-232.5 psf (See General Limitation #7)
- Maximum Design Pressure:** See Fastening Pattern Above.

Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Minimum 2500 psi concrete or concrete plank or min. 18-22 ga. steel
System Type D(2): Membrane attached over preliminary fastened insulation.

The following assembly is approved to a maximum design pressure listed with specific fastening patterns. No substitutions shall be made. All General and System Limitations apply.

All General and System Limitations apply.

One or more of the following.

<u>Insulation Layer</u>	<u>Insulation Fasteners</u> <u>(Table 3)</u>	<u>Fastener Density/ft²</u>
ACFoam II, ACFoam III, ACFoam Composite (bottom layer only), ACFoam Supreme, H-Shield Minimum 1.3" thick or tapered	N/A	N/A
Sarnatherm, Sarnatherm-25 PSI, ENRGY 3, ENRGY 3 Plus, ENRGY 3 PSI-25, ISO 95+ GL Minimum 1.4" thick or tapered	N/A	N/A
Approved High Density Wood Fiberboard (base layer only) Minimum 1" thick or tapered	N/A	N/A
Multi-Max FA-3, Thermarroof-3 Minimum 1.25" thick or tapered	N/A	N/A
DensDeck, DensDeck Prime Minimum 1/4" thick	N/A	N/A
Approved Perlite (base layer only) Minimum 3/4" thick	N/A	N/A

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum or 1/4 " DensDeck.

Membrane: S327, or Sikaplan 45 attached to deck as specified below.

Fastening #1: Sarnafastener-XP screws with approved plates spaced 12 in. o.c. within 5.5 in. wide side laps. Laps spaced 73 in. o.c. and sealed with a 1.5 in. wide heat weld.
Maximum Design Pressure -45 psf. (See General Limitations # 7)

Fastening # 2: Sarnafastener-XP screws with 2" Sarnadisc- plates spaced 12 in. o.c. within 6 in. wide side laps. Laps spaced 72.5 in. and sealed with a 0.75 in. wide heat weld on the inside and a 1.5 in. heat weld on the outside.
Maximum Design Pressure -45 psf. (See General Limitations # 7)



- Fastening #3:** Sarnafastener-XP screws with approved plates spaced 6 in. o.c. within 5.5 in. wide side laps. Laps spaced 73.5 in. o.c. and sealed with a 1.5 in. wide heat weld.
Maximum Design Pressure -75 psf. (See General Limitations # 7)
- Fastening #4:** Sarnafastener-XP screws with 2" Sarnadisc plates spaced 6 in. o.c. within the 6 in. wide side laps. Laps spaced 72.5 in. and sealed with a 0.75 in. wide heat weld on the inside and a 1.5 in. heat weld on the outside.
Maximum Design Pressure -82.5 psf. (See General Limitations # 7)
- Fastening # 5:** Sarnabars spaced 3' o.c. maximum fastened with Sarnafasteners-XP spaced 6 in. o.c. through the field of the membrane and covered with a 7" minimum width cover strip with 1.5" welds on each side.
Maximum Design Pressure -112.5 psf. (See General Limitations # 7)
- Maximum Design Pressures:** See Fastening Pattern. (See General Limitations # 7)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Minimum 2500 psi concrete or concrete plank or min. 18-22 ga. steel
System Type D(3): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation listed in Table 2.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: S327 or Sikaplan 45 attached to deck as specified below with Sarnarail Polymer Batten Strips spaced at 14.5" o.c. within a 5.5" wide lap.

Fastening #1: Sarnafasteners-XP fasteners spaced 6" o.c. through batten strip. Batten strip is lapped 8" and sealed with a 1.25" wide heat weld on outside edge and a 0.75" wide heat weld on inside edge.

Maximum Design Pressure -52.5 psf. (See General Limitation #7)

Fastening #2: Sarnafil MAXLoad fasteners spaced 12" o.c. through batten strip. Batten strip is lapped 14" and sealed with a 1.25" wide heat weld on outside edge and a 0.75" wide heat weld on inside edge.
Steel Deck Only

Maximum Design Pressure -52.5 psf. (See General Limitation #7)

Fastening #3: Sarnafil MAXLoad fasteners spaced 6" o.c. through batten strip. Batten strip is lapped 8" and sealed with a 1.25" wide heat weld on outside edge and a 0.75" wide heat weld on inside edge.
Steel Deck Only

Maximum Design Pressure -67.5 psf. (See General Limitation #7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7I: Recover, Insulated

Deck Description: Minimum 2500 psi concrete or concrete plank or min. 18-22 ga. steel

System Type D(4): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation listed in Table 2.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: S327 or Sikaplan 45 attached to deck as specified below.
Sarnafasteners-XP fasteners and Sarnadisc-XP plates spaced 6" o.c. within 5.5" wide laps spaced 14.5" o.c. Laps are sealed with a 1.75" wide heat weld on outside edge of lap.

Maximum Design Pressures: -60.0 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Minimum 2500 psi concrete or concrete plank or min. 18-22 ga. steel
System Type D(5): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation listed in Table 2.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: Minimum 45 mil thick S327 or Sikaplan 45 attached to deck as specified below with Sarnarail Polymer Batten Strips.

Fastening #1: Sarnafasteners-XP fasteners spaced 6" o.c. through batten strip spaced maximum 73.25" o.c. within the 5.5" wide side lap. Batten strip splice joints are made by overlapping the batten 12" and securing with two Sarnafastener XP screws spaced 6" o.c. Laps are sealed with at 1.5" wide heat weld on the outside edge and 1.0" wide heat weld on the inside edge.

Maximum Design Pressure -75.0 psf. (See General Limitation #7)

Fastening #2: Sarnafasteners-XP fasteners spaced 6" o.c. through batten strip spaced maximum 144" o.c. within the 5.5" wide side lap. Batten strip splice joints are made by overlapping the batten 12" and securing with two Sarnafastener XP screws spaced 6" o.c. Laps are sealed with at 1.5" wide heat weld on the outside edge and 1.0" wide heat weld on the inside edge.

Maximum Design Pressure -52.5 psf. (See General Limitation #7)

Fastening #3: Sarnafil MAXLoad fasteners spaced 18" o.c. through batten strip spaced maximum 73.25" o.c. within the 5.5" wide side lap. Batten strip splice joints are made by overlapping the batten 24" and securing with two Sarnafil MAXLoad screws spaced 18" o.c. Laps are sealed with at 1.5" wide heat weld on the outside edge and 1.0" wide heat weld on the inside edge.

Steel Deck Only
Maximum Design Pressure -45.0 psf. (See General Limitation #7)

Fastening #4: Sarnafasteners-XP fasteners spaced 12" o.c. through batten strip spaced maximum 73.25" o.c. within the 5.5" wide side lap. Batten strip splice joints are made by overlapping the batten 18" and securing with two Sarnafastener XP screws spaced 12" o.c. Laps are sealed with at 1.5" wide heat weld on the outside edge and 1.0" wide heat weld on the inside edge.

Maximum Design Pressure -45.0 psf. (See General Limitation #7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 18-22 ga. steel
System Type D(6): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation listed in Table 2.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: Minimum 48 mil thick S327 or Sikaplan 45 attached to deck as specified below with Sarnarail Polymer Batten Strips.

Sarnafil MAXLoad fasteners spaced 18" o.c. through batten strip spaced maximum 73.25" o.c. within the 5.5" wide side lap. Batten strip splice joints are made by overlapping the batten 24" and securing with two Sarnafil MAXLoad screws spaced 18" o.c. Laps are sealed with at 1.5" wide heat weld on the outside edge and 1.0" wide heat weld on the inside edge.

Maximum Design Pressures: -52.5 psf. (See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Minimum 2500 psi concrete or concrete plank or min. 18-22 ga. steel
System Type D(7): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: Minimum 48 mil thick S327 or Sikaplan 45 attached to deck as specified below with Sarnarail Polymer Batten Strips.

Sarnafasteners-XP fasteners spaced 6" o.c. through batten strip spaced maximum 144" o.c. within the 5.5" wide side lap. Batten strip splice joints are made by overlapping the batten 12" and securing with two Sarnafastener XP screws spaced 6" o.c. Laps are sealed with at 1.5" wide heat weld on the outside edge and 1.0" wide heat weld on the inside edge.

Maximum Design Pressures: -60.0 psf. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Minimum 2500 psi concrete or concrete plank or min. 18-22 ga. steel
System Type D(8): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation listed in Table 2.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: Minimum 45 mil thick S327 or Sikaplan 45 attached to deck as specified below.

Fastening #1: Sarnafasteners-XP fasteners and Sarnadisc XPN plates spaced 12" o.c. within 5.5" wide side laps spaced maximum 54" o.c. Laps are sealed with a minimum 1.6" wide outside heat weld.

Maximum Design Pressure -60.0 psf. (See General Limitation #7)

Fastening #2: Sarnafasteners-XP fasteners and Sarnadisc XPN plates spaced 6" o.c. within 5.5" wide side laps spaced maximum 54" o.c. Laps are sealed with a minimum 1.6" wide outside heat weld.

Maximum Design Pressure -90.0 psf. (See General Limitation #7)

Fastening #3: Sarnafasteners-XP fasteners and Sarnarail Polymer Batten Strip spaced 12" o.c. within 5.5" wide side laps spaced maximum 54" o.c. Laps are sealed with a minimum 1" wide outside heat weld and a minimum 5/8" wide inside heat weld.

Maximum Design Pressure -52.5 psf. (See General Limitation #7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Min. 18-22 ga. steel
System Type D(9): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation listed in Table 2.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: Minimum 45 mil thick S327 or Sikaplan 45 attached to deck as specified below.

Fastening #1: Sarnafastener MAXLoad fasteners and Sarnarail Polymer Batten Strip spaced 24" o.c. within 5.5" wide side laps spaced maximum 54" o.c. Laps are sealed with a minimum 1" wide outside heat weld and a minimum 5/8" wide inside heat weld.

Maximum Design Pressure -45.0 psf. (See General Limitation #7)

Fastening #2: Sarnafastener MAXLoad fasteners and Sarnarail Polymer Batten Strip spaced 18" o.c. within 5.5" wide side laps spaced maximum 54" o.c. Laps are sealed with a minimum 1" wide outside heat weld and a minimum 5/8" wide inside heat weld.

Maximum Design Pressure -52.5 psf. (See General Limitation #7)

Fastening #3: Sarnafastener MAXLoad fasteners and Sarnarail Polymer Batten Strip spaced 12" o.c. within 5.5" wide side laps spaced maximum 54" o.c. Laps are sealed with a minimum 1" wide outside heat weld and a minimum 5/8" wide inside heat weld.

Maximum Design Pressure -67.5 psf. (See General Limitation #7)

Fastening #4: Sarnafastener MAXLoad fasteners and Sarnarail Polymer Batten Strip spaced 6" o.c. within 5.5" wide side laps spaced maximum 54" o.c. Laps are sealed with a minimum 1" wide outside heat weld and a minimum 5/8" wide inside heat weld.

Maximum Design Pressure -112.5 psf. (See General Limitation #7)

Fastening #5: Sarnafastener MAXLoad fasteners and Sarnadisc MAXLoad plates spaced 24" o.c. within 6.5" wide side laps spaced maximum 53" o.c. Laps are sealed with a minimum 1.6" wide outside heat weld.

Maximum Design Pressure -45.0 psf. (See General Limitation #7)



- Fastening #6:** Sarnafastener MAXLoad fasteners and Sarnadisc MAXLoad plates spaced 18" o.c. within 6.5" wide side laps spaced maximum 53" o.c. Laps are sealed with a minimum 1.6" wide outside heat weld.
Maximum Design Pressure -52.5 psf. (See General Limitation #7)
- Fastening #7:** Sarnafastener MAXLoad fasteners and Sarnadisc MAXLoad plates spaced 12" o.c. within 6.5" wide side laps spaced maximum 53" o.c. Laps are sealed with a minimum 1.6" wide outside heat weld.
Maximum Design Pressure -60.0 psf. (See General Limitation #7)
- Fastening #8:** Sarnafastener MAXLoad fasteners and Sarnadisc MAXLoad plates spaced 6" o.c. within 6.5" wide side laps spaced maximum 53" o.c. Laps are sealed with a minimum 1.6" wide outside heat weld.
Maximum Design Pressure -105.0 psf. (See General Limitation #7)
- Fastening #9:** Sarnafastener MAXLoad fasteners and Sarnadisc MAXLoad plates spaced 12" o.c. within 7" wide side laps spaced maximum 113" o.c. Laps are sealed with a minimum 1.5" wide outside heat weld.
Maximum Design Pressure -45.0 psf. (See General Limitation #7)
- Maximum Design Pressures:** See Fastening Pattern. (See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Concrete / Steel
System Type D(10): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation listed in Table 2.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: Minimum 45 mil thick S327 or Sikaplan 45 attached to deck as specified below.

Fastening #1: Sarnafil MAXLoad fasteners and 3/4" wide Sarnarail Polymer Batten Strip spaced 6" o.c. within 5.5" wide side laps spaced maximum 114.5" o.c. Batten Strip is lapped 8" within lap to provide a minimum 2 screw securement in lap. Laps are sealed with a minimum 1.25" wide outside edge heat weld and minimum 0.75" wide inside edge heat weld.

Steel Deck Only

Maximum Design Pressure -67.5 psf (See General Limitation #7)

Fastening #2: Sarnafil MAXLoad fasteners and 3/4" wide Sarnarail Polymer Batten Strip spaced 12" o.c. within 5.5" wide side laps spaced maximum 114.5" o.c. Batten Strip is lapped 14" within lap to provide a minimum 2 screw securement in lap. Laps are sealed with a minimum 1.25" wide outside edge heat weld and minimum 0.75" wide inside edge heat weld.

Steel Deck Only

Maximum Design Pressure -45.0 psf (See General Limitation #7)

Fastening #3: Sarnafasteners-XP fasteners or OMG #15 Roofgrip Large Head fasteners and 3/4" wide Sarnarail Polymer Batten Strip spaced 6" o.c. within 5.5" wide side laps spaced maximum 114.5" o.c. Batten Strip is lapped 8" within lap to provide a minimum 2 screw securement in lap. Laps are sealed with a minimum 1.25" wide outside edge heat weld and minimum 0.75" wide inside edge heat weld.

Steel or Concrete Deck Only

Maximum Design Pressure -60.0 psf. (See General Limitation #7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Steel
System Type D(11): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation listed in Table 2.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: Minimum 45 mil thick S327 or Sikaplan 45 attached to deck as specified below.
Sarnafil MAXLoad fasteners and 3/4" wide Sarnarail Polymer Batten Strip spaced 6" o.c. within 5.5" wide side laps spaced maximum 114.5" o.c. Batten Strip is lapped 8" within lap to provide a minimum 2 screw securement in lap. Laps are sealed with a minimum 1.25" wide outside edge heat weld and minimum 0.75" wide inside edge heat weld.

Maximum Design Pressures: -75.0 psf (See General Limitation #7)

Membrane Type: Single Ply, Thermoplastic, PVC
Deck Type 7I: Recover, Insulated
Deck Description: Concrete / Steel
System Type D(12): Membrane attached over preliminary fastened insulation.

All General and System Limitations apply.

One or more layers of any approved insulation listed in Table 2.

Note: All insulation shall have preliminary attachment, prior to the installation of the roofing membrane at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft.

Vapor Retarders: (Optional) Sarnavap or a FM approved vapor barrier applied directly to the deck or over the base insulation layer.

Fire Barrier: (Optional) Minimum 5/8" Type X Gypsum, 1/4" DensDeck, secured with Miami-Dade County approved insulation fasteners at not less than 2 fasteners for a board with no dimension greater than 4' and not less than four fasteners for any board with any greater dimension than 4'.

Membrane: Minimum 45 mil thick S327 or Sikaplan 45 attached to deck as specified below.

Fastening #1: Sarnafil MAXLoad fasteners and Sarnadisc MAXLoad plates spaced 6" o.c.
Steel Deck Only within 7" wide side laps spaced maximum 113" o.c. Laps are sealed with a minimum 0.875" wide outside edge heat weld.

Maximum Design Pressure -60.0 psf (See General Limitation #7)

Fastening #2: Sarnafasteners-XP fasteners and Sarnadisc XPN plates spaced 6" o.c. within 5.5"
Steel or Concrete Deck Only wide side laps spaced maximum 114.5" o.c. Laps are sealed with a minimum 0.5" wide outside edge heat weld.

Maximum Design Pressure -45.0 psf. (See General Limitation #7)

Maximum Design Pressures: See Fastening Pattern. (See General Limitation #7)



Membrane Type: Single Ply, Thermoplastic, PVC

Deck Type 7: Recover, Non-Insulated

Deck Description: Concrete/lightweight concrete/cementitious wood fiber/steel

System Type F: Membrane adhered to sustrate.

All General and System Limitations apply:

Fire Barrier: None

Membrane: G410, G410 Felt, S327 or S327 Felt adhered with Sarnacol 2170 applied to the substrate only at 1.5 to 2.5 gal/sq.

Maximum Design Pressure: -45 psf (See General Limitation #9)

RECOVER SYSTEM LIMITATIONS:

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117 and/or RAS 137. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 12-0313.18
Expiration Date: 05/16/13
Approval Date: 05/03/12
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